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ABSTRACT

This report summarizes two studies conducted as part of a continuing research program designed to examine relational perceptions in dyadic communication contexts. A mutual-causal, relational paradigm tested the nature of interpersonal solidarity in dyads consisting of acquaintances, co-workers, family members, and friends. Results of both studies replicated recent research, indicating that different communication contexts can be predicted from relational perceptions, and solidarity was found to be higher for the two closer contexts surrounding friends and family members. Moreover, the measurement of interpersonal solidarity in dyadic relationships is sufficiently reliable and valid across contexts for the classification and prediction of relational communication behaviors. (Author)

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INTERPERSONAL SOLIDARITY AND COMMUNICATION CONTEXTS: THE STUDY OF RELATIONAL COMMUNICATION IN A MUTUAL-CAUSAL PARADIGM

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Abstract

This report summarizes two studies conducted as part of a continuing research program designed to examine relational perceptions in dyadic communication contexts. A mutual-causal, relational paradigm tested the nature of interpersonal solidarity in dyads consisting of acquaintances, co-workers, family members, and friends. Results of both studies replicated recent research, indicating that different communication contexts can be predicted from relational perceptions, and solidarity was found to be higher for the two closer contexts surrounding friends and family members. Moreover, the measurement of interpersonal solidarity in dyadic relationships is sufficiently reliable and valid across contexts for the classification and prediction of relational communication behaviors.

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INTERPERSONAL SOLIDARITY AND COMMUNICATION CONTEXTS: THE STUDY OF RELATIONAL COMMUNICATION IN A MUTUAL-CAUSAL PARADIGM[1]

Recently, communication scholars have suggested that empirical investigations guided by a relational perspective provide important insights into the interpersonal communication process (Rogers & Bhowmik, 1970). A relational communication perspective treats the interpersonal relationship between individuals, not the individual, as the primary unit of analysis (Blau, 1962). Furthermore, as Rogers and Bhowmik (1970, p. 524) maintain, we tend to assume that: "if the individual is the unit of response, the individual must also be the unit of analysis." A more thorough understanding of the dyadic linkages formed through relational communication would seem to be related to the further development of human communication theory.

The study of relational communication has been conceptualized not only as those messages which define, confirm, or redefine human communication relationships (Ericson & Rogers, 1973; Parks, Rogers & Farace, 1975; Rogers, 1972), but also as those communication processes by which relationship decisions are negotiated and continually modified (Villard & Whipple, 1976). A relational approach requires analysis procedures that differ from the traditional monadic or individual difference orientation that pervades the current literature. Relational analyses focus on communication behaviors which exist between individuals at the dyadic system level (cf. Rogers & Farace, 1975).

Even though recent research has argued for a relational viewpoint (e.g. Ellis, 1976; Folger & Puck, 1976; Hawkins & Book, 1974; Mark, 1971; Millar, 1973; Parks, 1975; Parks, Farace, Rogers, Albrecht & Abbott, 1976; Rogers & Farace, 1975), it has failed to investigate the interrelationships among a number of relational behaviors. The benefits of studying interpersonal solidarity (Brown, 1965; Wheeless, 1976, 1977) and communication contexts (Bodaken & Weiner, 1977; Bodaken & Wenburg, 1977; Garrison & Pate, 1977; Garrison, Sullivan & Pate, 1976; Lockwood & Eman, 1976; Snavely, Merker, Becker & Book, 1976) would be to contribute to the development of relational communication measurement procedures used in previous research. Therefore, both studies in this report adopted a relational perspective focusing on the dyad, and concentrated on the nature of interpersonal solidarity operating in dyadic communication contexts.

SOLIDARITY AND COMMUNICATION CONTEXTS

Interpersonal solidarity, as conceptualized by Brown (1965) and Wheeless (1976, 1977), is central to a relational perspective which isolates the dyad as the primary unit of analysis. Solidarity is a concept characterized by a number of distinct criterial attributes representing a close, intimate interpersonal relationship. This is consistent with the current thinking and research on relational communication systems. Solidarity refers to the proximal nature of a dyadic relationship and it is usually discussed as "being close or remote, near or far, the in-group versus the out-group" (Brown, 1965, p. 57). Moreover, as Wheeless suggests, "high solidarity relationships refer to those in which 'closeness' derived from 'similarity' finds expression in sentiments, behaviors, and symbols of that closeness" (1976, p. 48).

Definitions of relational communication indicate that messages exchanged within dyads serve to modify, and continually redefine, the type of communication that occurs within that relationship. Relational messages may strengthen or

weaken the bonds that determine the contextual boundaries associated with developing relationships. The reciprocal exchange of intimate messages can serve to strengthen a relationship, while the nonsymmetrical exchange of messages involving status relations probably weaken a relationship. Exploratory communication research by Wheeless has confirmed this expectation, since his research has identified disclosiveness--a person's predilection to disclose to other people in general--(Wheeless, Nesser & McCroskey, 1976), self-disclosure--messages about the self--(Wheeless & Grotz,1976), and individualized trust--trust in a specific individual--(Wheeless & Grotz, 1977) to be criterial attributes of the interpersonal solidarity construct.

The significance of this relational construct, to other person perception constructs, has recently been developed in the following way: "Solidarity appears to be a conceptually rich, higher order concept which encompasses trust, attraction, liking, similarity, and other attributes which have been measured independently of the essential, overriding relationship which subsumes or at least unites these numerous attributes" (Wheeless, 1976, p. 49). The isolation of additional criterial attributes of solidarity is crucial to the study of communication systems operating at the dyadic level. Previously, we lacked appropriate concepts to guide our analysis of relational data, and new concepts needed to be created, explicated, and measured. In fact, several years ago Rogers and Bhowmik (1970) suggested that future inquiry should utilize relational analysis as a means of probing the nature of communication behavior. New relational communication concepts are needed to fully assess relationships among communicators in dyadic encounters. Several variables similar to interpersonal solidarity provide useful mechanisms for probing, classifying, and distinguishing relational communication phenomena at the dyadic level.

Current theorizing and research contends that context is also important to relational communication. Bateson has suggested that "without context, there is no communication" (1972, p. 408). Little is currently known or agreed upon regarding how various contexts affect or influence an individual's communication behaviors in the dyad. An explanation of how communication is directly influenced by context can be described by the specific stages communicators experience in relational encounters: (1) in every communication participants offer definitions of their relationship which they hope will structure their relationship; (2) participants do this through messages that emphasize similarities and/or differences in status and affection; (3) each person confirms, rejects, ignores, or modifies the image of the other; and (4) once relationships are established they form a context within which participants define the meaning of the content of the messages they exchange (Nimmo, 1974, p. 43). While many now follow this premise (e.g. Berger & Calabrese, 1975; Bochner, 1976; Bodaken & Weiner, 1977; Bodaken & Wenburg, 1977; Eadie & Kline, 1976; Garrison & Pate, 1977; Garrison, et al., 1976; Lockwood & Eman, 1976; McCroskey & Wheeless, 1976; Mortensen, 1972; Nimmo, 1974; Pace & Boren, 1973; Pearce, 1976; Sereno & Bodaken, 1975; Snavely, 1977; Snavely, et al., 1976; Sullivan, 1977; Swanson & Delia, 1976; Tubbs & Moss, 1974; Watzlawick, Beavin & Jackson, 1967; Wilmot, 1975), little empirical research has confirmed its underlying relational proposition. A logical extension to this premise is that a better understanding of communication behavior relies on a careful examination of interpersonal contexts, within which communication behaviors occur. Communication context refers to the parameters that surround dyadic linkages; these directly influence subsequent human communication behaviors.

We take it to be axiomatic that human communication is transacted contextually (Bodaken & Weiner, 1977). Bochner (1976) agrees with this axiom, arguing that no meaning-centered theory of communication could possibly be written without reference to context. He has also pointed out "many interactional contexts which influence behavior and experience" (Bochner, 1976, p. 381). With contemporary perspectives such as these, context has become vitally important to our understanding of relational communication. It appears that the dyad is particularly important to observe from a relational perspective. Moreover, it is within communication contexts that dyadic partners reciprocally develop affective bonds, and the strenth of these bonds ultimately determine the degree of closeness, or solidarity, that exists for their interpersonal relationship.

RATIONALE AND HYPOTHESES

A plethora of perception research was generated in several academic disciplines during the late fifties and early sixties, but the research steadily declined in recent years due to severe methodological criticisms (Cronbach, 1958; Shrauger & Altrocci, 1964; Tagiuri, 1969). These criticisms focused primarily upon the statistical dependence among variables and unstable difference scores used to index similarities among person perception measures. Research in the person perception process which does not take into account the interactive nature of dyadic relations should reflect similar methodological criticisms (cf. Crano & Brewer, 1973).

Early person perception research emphasizing communication focused on source valence, a concept that refers to directional perceptions of a communication source. This linear, monadic model assessed the characteristics of an individual in terms of four primary person perception constructs: credibility, attraction, homophily and power (cf. Lashbrook & McCroskey, 1972; McGuire, 1969). Lashbrook (1973) examined dimensions of perceived interpersonal trust and leadership in conceptualizing source valence. The rationale for including additional dimensions was that no adequate theory of source valence existed and that other person perceptions exist (cf. Hastorf, Schneider & Polefka, 1970). Although source valence research has been important to our current understanding of the interpersonal communication process, it did not examine the impact of several perceptions which relational perspectives hold as fundamental to the communication outcomes existing for two people.

Interpersonal valence, a concept referring to a mutual-causal set of relational person perceptions, was developed to counter the reliance on the one-way causal models which consistently dominate the literature (cf. Garrison, et al., 1976; Pate & Sullivan, 1976). Garrison, et al., (1976), using interpersonal valence perceptions to predict communication contexts, found the mutual-causal dimensions of interpersonal satisfaction and interpersonal trust to be better predictors of context than the more traditional, monadic source valence constructs of credibility, attraction, and homophily. It has been argued that when "the relationship is the unit of analysis, predictors of a reciprocal nature should be required for prediction and/or explanation" (Bodaken & Weiner, 1977, p. 5).

Despite the acknowledgement that interpersonal communication encompasses an array of perceptual components and dimensions, it may be unnecessary to make separate person perception measurements in order to gain a relational perspective. The current trend in human communication research has been to advance person perception constructs, such as source valence and interpersonal valence, toward such a relational perspective. Interpersonal solidarity encompasses the necessary

relational perceptions for a more meaningful assessment of dyadic communication systems. It has been argued that the higher order concept of interpersonal solidarity is based on many of the person perception constructs that are parts of source valence and interpersonal valence. More specifically, if this is the case, we would expect solidarity to distinguish between communication contexts. Based on this expectation, the present research hypothesized:

> H_1: When cast as a predictor in a multiple discriminant analysis equation, interpersonal solidarity will significantly determine dyadic communication contexts ($p<.05$).

The most important characteristic associated with interpersonal solidarity is a perceived feeling of closeness in a dyadic relationship. Brown (1965) has noted that solidarity is a common perception among "brothers and sisters, lovers, spouses, close friends, comrades in arms, and school fellows" (p. 58). Dyadic relationships in friend and family contexts should, by definition, contain more solidarity. Interpersonal relationships among social acquaintances and co-workers, on the other hand, are typically more distant in nature, and often include social and cultural roles which preclude the development of interpersonal solidarity or psychological "closeness." The following hypothesis was advanced for purposes of testing the relationship between communication contexts and interpersonal solidarity.

> H_2: Dyadic perceptions of interpersonal solidarity will be higher for friend and family member contexts than for acquaintance and co-worker contexts ($p<.05$).

METHOD

Samples and Data Collection

Research plans for two studies provided information for determining the minimum number of subjects necessary to detect small effect size differences with a statistical power ratio of .80 at alpha .05 (cf. Cohen, 1969; Kirk, 1968). In order to maintain power at this level, the sample selected for the first study consisted of 115 undergraduates, enrolled in a multi-sectioned fundamentals course in human communication, at a large Midwestern university. A second study was conducted the semester following the first, and a sample of 100 similar undergraduates served as subjects. Subject selection procedures were the same across the two studies; dyadic partners were selected by the subjects to represent communication occurring in the different communication contexts. Reciprocal or mutual-causal evaluations of four dyads per subject were collected, providing a total of 1720 respondents.

Subjects were informed that they were participating in a class assignment designed to analyze the type of communication they have with others. Communication concepts related to this research had not been discussed with subjects prior to the data collection. Questionnaires[2] were distributed at the beginning of a class period, completed outside of class by the subjects, and returned one week later. The instructions included contextual inductions designed to provide the student subjects with a clear frame of reference for evaluating interpersonal relationships across the communication contexts. Subjects were asked to choose dyadic partners that would not occupy a dominant space in more than one communication context. In every one of the 860 dyads, subjects verified the manipulation check that subjects independently know the correct context in which they evaluate their dyadic partner. The dyadic partners selected by the student subjects were informed

that they should reference their unique relationship with each other, and not reference their interpersonal relationships in general. Finally, each dyad member completed the measurement of six additional person perception constructs with no apparent contamination as part of another study, and the 20-item, Likert-type version of the Interpersonal Solidarity Scales (ISS; Wheeless, 1977). Again, subjects reciprocally evaluated their communication relationships in acquaintance, co-worker, friend, and family member contexts providing a mutual-causal, relational paradigm as the outcome of the data collection procedures.

Statistical Analyses

The ISS was submitted to principal components factor analysis, utilizing orthogonal rotation, in order to replicate the expected unidimensionality of the interpersonal solidarity construct (cf. Wheeless, 1976, 1977). The extraction of valid factors utilized the 1.0 eigenvalue criteria and the Scree procedure for determining the number of factors present. Individual scale items required primary factor loadings of .60 or greater, with no secondary loading higher than .40. An extracted factor was also required to have an internal reliability of .80 (cf. Nunnally, 1967, pp. 193-194).[3]

Factor analysis data were submitted to two statistical packages as independent checks on the factor structure.[4] Kaiser's (1970) second generation LITTLE JIFFY program was included as one of the statistical analyses, in order to compute Kaiser and Hunka's (1973) measure of sampling adequacy (MSA).[5] A MSA was computed for the most stable factor structure. An additional criteria used to assess the strength of the factor analysis data was a .80 MSA, adopted for estimating how accurate each sample was for factor analysis.

The first hypothesis was tested using a stepwise multiple discriminant analysis (MDA) model. Interpersonal solidarity was the predictor and the four levels of communication context were used as the criterion variable. The second hypothesis was tested with one-way analysis of variance. Combined solidarity levels from the acquaintance and co-worker contexts and the friend and family contexts served as the classification levels of the independent variable. Following the criteria advanced in the research plan for both studies, statistical power was maintained at $>.995$ and all statistical tests required the .05 level of significance.

RESULTS OF STUDY ONE

Factor analysis of the 20-item ISS indicated that two factors, with eigenvalues greater than 1.0, explained 67% of the variance in the solidarity domain. Table 1 reports the primary and secondary loadings on these factors. Using the criteria of significant factor loadings and the Scree procedure together, the two factor solution appeared to be the most correct. Since the measurement of interpersonal solidarity is assumed to be a unidimensional construct, the factor space was probed for an indication of why more than one factor would exist in the obtained factor structure. Upon examination of the unidimensional solution, it was evident that none of the negatively-worded items had loaded; hence, they would have been eliminated. The existence of the second factor was clearly a measurement artifact attributable to the positive and negative wording of the scale items. Therefore, the measurement of interpersonal solidarity was essentially unidimensional; MSA was .93. The reliability of the single factor was .95.

Insert Table 1 about here

Hypotheses

The first hypothesis predicted that interpersonal solidarity is a significant discriminator of communication contexts. Since MDA requires k-1 predictors, each scale item was required to be a significant discriminator. Table 2 reports the multivariate F ratios and summary information from the MDA equation for study one. The strength of the multivariate relationship among the 17 significant solidarity predictors, as measured by omega-squared (Tatsuoka, 1970), indicated that 86% of the variance in the discriminant space was attributable to group differences. A classification matrix which identifies percentages of correct contextual classifications was generated from the final MDA model (see Table 3).

Insert Tables 2 and 3 about here

A chi-square test based on the discriminant analysis classification matrix indicated that the correct assignment of subjects to the four communication contexts was statistically significant (x^2= 1174.36, df = 9, $p<.00001$). Statistical power (1-E) was re-calculated at > .995, using Cohen's (1969) tables, information gained from the multivariate effect-size measure, and the degrees of freedom of the first predictor entering the 17 item equation. The standardized discriminant function coefficients from study one are presented in Table 4.

Insert Table 4 about here

The second hypothesis predicted that dyadic perceptions of interpersonal solidarity are higher for friend and family contexts than for acquaintance and co-worker contexts. The hypothesis was confirmed (F = 159.39, df = 1,918, $p<$ .0001) with solidarity higher ($\bar{X}$= 101.22, N = 460) for friend and family contexts and lower ($\bar{X}$ = 84.91, N = 460) for acquaintance and co-worker contexts. The overall mean equalled 93.02. By univariate omega-squared estimate (cf. Hays, 1963; Kirk, 1969), communication contexts accounted for 15% of the solidarity variance.

RESULTS OF STUDY TWO

Factor analysis of the ISS produced the expected unidimensional solution. Three factors were originally extracted using the 1.0 eigenvalue criteria; however, when applying the Scree procedure and the factor loading criteria, the unidimensional solution seemed to be correct. Based on an examination of the two factor solution, three negatively-worded items (4, 8 and 13) had their highest loading on the second factor. Acceptance of the rotated, two factor solution would have eliminated six items. Therefore, the best solution was a 17-item, unidimensional measure with a reliability of .94 (see Table 5). The MSA for the one factor solution was .95.

Insert Table 5 about here

Hypotheses

Results from the second study indicated that the first hypothesis was also significant. The results of the MDA, for items as significant predictors, are reported in Table 6. The 16-variable equation accounted for 71% of the variance in the discriminant space. The second MDA model was also used to generate a classification matrix (Table 7), which identified the number of correct classifications for study two.

Insert Tables 6 and 7 about here

A chi-square test, based on the MDA classification matrix, indicated that the correct assignment of subjects to the four communication contexts was again statistically significant (x^2 =777.82, df = 9, p<.00001). The standardized discriminant coefficients in study two are included in Table 8.

Insert Table 8 about here

The test of the second hypothesis replicated the results observed in study one (F = 685.28, df = 1,798, p<.0001). Interpersonal solidarity was again higher for friend and family contexts ($\bar{X}$ = 97.54, N = 400) than for acquaintance and co-worker contexts ($\bar{X}$ = 67.85, N = 400). The overall mean equalled 82.95. Forty-six percent of the variance in solidarity was attributable to communication contexts.

DISCUSSION

Both of the studies included in this report revealed that the Interpersonal Solidarity Scales (Wheeless, 1977) maintained the factor structures identified in previous research. In addition, it appears that the measurement of perceived solidarity in dyadic relationships is sufficiently reliable for classification and prediction of relational communication constructs and behaviors. When using a criterion of perceived "closeness" of the dyadic relationships within each communication context, the validity of the ISS was also demonstrated.

Multiple discriminant analysis indicated that interpersonal solidarity was a significant predictor of dyadic communication contexts. Two MDA equations were analyzed in order to determine which particular characteristics of perceived interpersonal solidarity best discriminate among dyadic communication contexts. As hypothesized, a large number of solidarity scales were capable of significantly discriminating among the four contextual relationships. Additionally, a significant multivariate relationship was also produced for the discriminant space that surrounds the interpersonal solidarity predictors and dyadic communication contexts. The multivariate strength of association measure, omega-squared, was quite large (range of variance 71-86%), indicating that interpersonal solidarity can predict dyadic communication contexts, both in terms of statistical significance and total discriminatory power.

The results of the two MDA equations indicate that the dyadic encounters that occur in the closer contexts of friend and family member are correctly classified more easily, while classifications of the acquaintance and co-worker

contexts are less successful. In study one, the friend context was correctly classified for 92% of the cases, and the acquaintance context was classified correctly in only 45% of the cases. However, across all contexts, 71% of the cases were correctly classified. This is an important finding. By chance alone, we would expect correct classification in only one-fourth of the dyadic relationships. Predictions from the first MDA model are nearly three times what we would have expected had no relationship existed between interpersonal solidarity and communication contexts.

In study two, classification of dyads in the family context was most successful (77%), and the co-worker context (47%) was the least successful. Overall, 65 percent of the cases were correctly classified. These findings are similar to study one. Predictions are much higher than the .25 level of prior probability. Dyadic relationships in the "closer" contexts of friend and family were again classified more accurately. The results of both MDA solutions provide additional evidence for the construct and statistical conclusion validity of interpersonal solidarity and dyadic communication contexts in a relational system (cf. Cook & Campbell, 1976).

The analysis of variance models indicated that the "closer" communication contexts of friend and family were perceived to be higher in interpersonal solidarity than acquaintance and co-worker contexts. Even though mean differences that are relatively small can achieve statistical significance when the sample size happens to be large, this was not the case in either study. Mean solidarity scores for the 20-item measure in study one were 79.86 for acquaintances, 90.05 for friends, 84.64 for co-workers and 117.86 for family members. Solidarity scores for the 17-item measure in study two were 59.81 for acquaintances, 97.64 for friends, 75.42 for co-workers and 98.33 for family members. The strength of the association between communication contexts and interpersonal solidarity (range of shared variance 15-46%) further highlights the significance of the results obtained from the analysis of variance models. Moreover, these findings provide empirical support for Brown's (1965) conceptualization that solidarity is a common relational perception among close friends and family members.

Important similarities are evident when one compares the MDA equations in studies one and two. Items referencing relational perceptions of closeness, love, sharing, helpfulness, intimacy, trust and self-disclosure (cf. Tables 2 and 6, items 1, 11, 15, 16, 17, 20, 3 and 5) were evaluated more positively in the closer communication contexts and eventually became the best predictors. Relational messages which emphasize these criterial attributes appear to be especially important for solidary dyads.

Finally, the use of a relational perspective in both studies replicated recent communication research. Communication contexts were significantly predicted and classified more accurately by interpersonal solidarity than by the independent measures of credibility, attraction, homophily, trust and satisfaction used by Garrison et al. (1976) to predict these same communication contexts. Again, this finding emphasizes the efficacy of a relational perspective. Interpersonal solidarity was also found to be higher for the two closer contexts, similar to the results reported by Wheeless (1976, 1977). In short, interpersonal solidarity and communication contexts were examined as both independent and dependent variables in this investigation. Each of these relationships were both statistically significant, and accounted for a meaningful portion of the total variance. Based on the proximal nature of dyadic encounters, this report argues strongly for a mutual-causal paradigm for the future study of relational communication.

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FOOTNOTES

[1]Requests for reprints should be sent to John P. Garrison, Department of Speech Communication, The University of Nebraska-Lincoln, Lincoln, NE 68588. The authors wish to thank Larry Pate, Bill Snavely, Dan Sullivan and John Wenburg for helpful comments on the preliminary draft of this report.

[2]Copies of the questionnaires are available from the authors on request.

[3]Nunnally's formula ($r_{kk} = \underline{kr_{11}} / 1 + (n-1)\ r_{11}$) is computed by multiplying the number of items in a measure by the average correlation among all the items, divided by 1 plus the number of items minus one, times the average correlation. Pearson product-moment correlations are transformed, via Fisher's $\underline{Z}_r$ procedure, before summing in the averaging step, and the average $\underline{Z}_r$ score is then transformed to the equivalent Pearson product-moment correlation before use in Nunnally's reliability formula 6-18.

[4]The Biomed-P series and the Statistical Analysis System factor analysis programs were utilized in this phase of data analysis.

[5]Kaiser (1970, p. 405) reports that "MSA is a function of four 'main effects': (a) MSA improves as the number of variables increases. (b) MSA improves as the (effective) number of factor decreases. (c) MSA improves as the number of subjects increases. (d) MSA increases as the general level of correlation increases."

TABLE 1

Study 1: Unrotated Factor Loadings
of Interpersonal Solidarity Scales

Scale Items		I Positive Factor	II Negative Factor	h^2
1.	We are very close to each other	.85*	-.04	.74
2.	This person has a great deal of influence over my behavior.	.77*	.23	.65
3.	I trust this person completely.	.60*	-.24	.43
**4.	We feel very differently about most things.	-.10	.74*	.57
5.	I willingly disclose a great deal or positive and negative things about myself, honestly and fully (in depth) to this person.	.77*	.17	.63
6.	We do not really understand each other.	-.23	.79*	.69
7.	This person willingly discloses a great deal of positive and negative things about himself honestly and fully (in depth) to me.	.71*	.21	.56
8.	I distrust this person.	.03	.83*	.71
9.	I like this person much more than most people I know.	.71*	.06	.52
10.	I seldom interact--communicate with this person.	-.21	.78*	.66
11.	I love this person.	.77*	-.04	.60
12.	I understand this person and who he (she) really is.	.79*	.19	.66
13.	I dislike this person.	.06	.92*	.86
14.	I interact--communicate with this person much more than with most people I know.	.79*	.18	.67
15.	We are not very close at all.	-.33	.84*	.83
16.	We share a lot in common.	.74*	.28	.63
17.	We do a lot of helpful things for each other.	.79*	.19	.68
18.	I have little in common with this person.	-.15	.90*	.85
19.	I feel very close to this person.	.85*	.14	.76

TABLE 1--(cont.)

Scale items	Positive Factor	Negative Factor	h^2
20. We share some private ways of communicating with each other.	.84*	-.38	.87
N = 920			
Eigenvalues	8.07	5.48	
Cumulative Variance	.40	.68	
Reliability	.95	.94	
Measure of Sampling Adequacy = .93			

*Items Selected.

**Underlined items are negatively-worded.

TABLE 2
Study 1: Stepwise Multiple Discriminant Analysis with 17 Variable Model

Step Number	Variable Entered (Item number Keyed to Table 1)	F to Enter	df	Λ
1	#20	496.10	3/917.00	.38
2	# 1	295.62	6/1832.00	.25
3	#13	220.75	9/2227.02	.21
4	#11	175.34	12/2418.51	.19
5	#15	145.07	15/2520.79	.17
6	#17	124.25	18/2580.01	.17
7	#16	109.53	21/2616.45	.16
8	# 4	97.94	24/2639.88	.15
9	# 5	88.95	27/2655.39	.14
10	# 8	81.04	30/2665.84	.14
11	# 3	74.41	33/2672.89	.14
12	#12	68.86	36/2677.61	.14
13	# 2	64.13	39/2680.65	.14
14	# 6	59.99	42/2682.46	.14
15	#19	56.24	45/2683.36	.13
16	#18	52.88	48/2683.57	.13
17	#10	49.85	51/2683.23	.13

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation
1	2.79	77.00	.858
2	.71	19.79	.646
3	.11	3.22	.323

TABLE 3
Study 1: Discriminant Classification Matrix for 17 Predictor Items

Actual Group	N of Cases	(Acq)	(Fri)	(Cow)	(Fam)
Acquaintance (Acq)	230	104 45.2%	55 23.9%	60 26.1%	11 4.8%
Friend (Fri)	230	18 7.8%	211 91.7%	1 0.4%	0 0.0%
Co-Worker (Cow)	230	44 19.1%	8 3.5%	132 57.4%	46 20.0%
Family (Fam)	230	6 2.6%	0 0.0%	14 6.1%	210 91.3%
	N = 920				

Total Correct Classification = 657 of 920 or 71.41%

TABLE 4
Study 1: Standardized Disciminant Function Coefficients

Predictors (Item Number Keyed to Table 1)	Function I	Function II	Function III
1	.07	.32	-.07
2	-.08	.16	.02
3	.00	-.05	-.49
4	.06	-.01	.39
5	-.11	.10	.07
6	.06	-.14	.10
7	----	----	----
8	.07	.14	-.34
9	----	----	----
10	02	-.11	.04
11	.18	.30	.93
12	.08	.15	-.19
13	.10	-.21	.10
14	----	----	----
15	.23	.31	-.51
16	-.19	-.14	.21
17	.02	.10	-.80
18	.09	-.02	.15
19	-.06	.13	.17
20	.35	-.07	.18

TABLE 5

Study 2: Primary Factor Loadings of Interpersonal Solidarity Scales

Scale Items (Keyed to Table 1)	Primary Loadings I	h^2
1	.87*	.77
2	.76*	.59
3	.74*	.55
4	-.39	.16
5	.81*	.66
6	-.67*	.45
7	.76*	.59
8	-.58	.35
9	.67*	.45
10	-.71*	.51
11	.73*	.54
12	.78*	.69
13	-.47	.23
14	.78*	.61
15	-.85*	.72
16	.69*	.48
17	.76*	.58
18	-.64*	.42
19	.88*	.79
20	.75*	.57

N = 800

Eigenvalue	10.65
Cumulative Variance	.53
Reliability	.94
Measure of Sampling Adequacy =	.95

*Items Selected

TABLE 6

Study 2: Stepwise Multiple Discriminant Analysis with 16 Variable Model

Step Number	Variable Entered (Item number Keyed to Table 1)	F to enter	df	U
1	# 1	298.56	3/797.00	.46
2	#11	153.89	6/1592.00	.39
3	#15	109.26	9/1917.94	.36
4	#14	85.48	12/2082.50	.34
5	#16	70.71	15/2170.20	.33
6	#17	61.43	18/2220.80	.31
7	# 3	53.77	21/2251.77	.31
8	#10	47.42	24/2271.54	.30
9	# 5	42.41	27/2284.49	.30
10	# 2	38.47	30/2293.07	.30
11	#18	35.18	33/2298.72	.29
12	#20	32.44	36/2302.37	.29
13	# 7	30.07	39/2304.57	.29
14	#19	28.04	42/2305.72	.29
15	# 6	26.30	45/2306.08	.29
16	# 9	24.74	48/2305.84	.29

Discriminant Function	Eigenvalue	Relative Percentage	Canonical Correlation
1	1.50	81.33	.775
2	.21	11.78	.423
3	.12	6.89	.336

TABLE 7
Study 2: Discriminant Classification Matrix for 16 Predictor Items

Actual Group	N of Cases	(Acq)	(Fri)	(Cow)	(Fam)
Acquaintance (Acq)	200	150	4	39	7
		75.0%	2.0%	19.5%	3.5%
Friend (Fri)	200	4	125	23	48
		2.0%	62.5%	11.5%	24.0%
Co-worker (Cow)	200	43	45	93	19
		21.5%	22.5%	46.5%	9.5%
Family (Fam)	200	4	38	4	154
	N=800	2.0%	19.0%	2.0%	77.0%

Total Correct Classification = 522 of 800 or 65.25%

TABLE 8
Study 2: Standardized Discriminant Function Coefficients

Predictors (Item Number Keyed to Table 1)	Function I	Function II	Function III
1	-.46	.28	-.03
2	.02	-.29	-.24
3	-.00	.18	-.63
4	----	----	----
5	-.06	.36	.07
6	-.08	-.01	-.05
7	.11	.00	.04
8	----	----	----
9	.03	-.07	.22
10	-.05	.23	-.07
11	-.19	-1.08	.19
12	----	----	----
13	----	----	----
14	-.04	-.43	.48
15	.24	.09	-.28
16	-.06	.15	.86
17	.08	.15	-.76
18	.01	-.22	.17
19	-.09	-.28	.10
20	-.06	.13	.18